<u>Remarks</u>

Claims 1-14 are pending in the subject application and currently stand rejected. By this Amendment, the applicants have amended claim 6 to correct a typographical error. No new subject matter has been added by this amendment. Accordingly, claims 1-14 are before the Examiner for consideration. Favorable consideration of the pending claims, in view of the remarks set forth herein, is earnestly solicited.

Claims 1, 2, 4-8 and 10-14 have been rejected under 35 U.S.C. §102(b) as being anticipated by Turner *et al.* (U.S. Patent Publication No. 2004/0137915). The applicants respectfully traverse because Turner *et al.* does not teach each and every limitation of the subject invention as claimed in claims 1, 2, 4-8 and 10-14.

The Action at page 3 indicates that Turner *et al.* teaches, at col. 8, lines 10-18 and col. 9, lines 7-29, a method for improving routing operations in dynamic routing tables as claimed. However, the disclosure of Turner *et al.* at col. 8, lines 10-18 does not relate to establishing s to be used in a prefix partitioning scheme, partitioning at least one prefix into up to $\min(n, 2^s+1)$ partitions, and assessing prefix length with regard to s as specified in the claims; and the disclosure of Turner *et al.* at col. 9, lines 7-29 does not relate to storing the prefix whose length is larger than or equal to s in a partition that corresponds to the value of the prefix's first s bit and storing prefixes whose length is smaller than s in a first designated partition as specified in the claims. Rather, Turner *et al.* organizes the prefixes of a routing table <u>according to their length</u> (i.e. how many bits the prefix has). *See* Turner *et al.* at FIG. 6, FIG. 9, and FIG. 10. In fact, the $\log_2 n$ mentioned at col. 8, lines 10-18 of Turner *et al.* refers to the time complexity of a binary search. Specifically, according to the scheme of Turner *et al.*, for IPv4 routing table, there are only 32 different lengths and the partition table has only 32 entries; for IPv6 routing table, there are only 128 different lengths and the partition table has only 128 entries.

In contrast, the invention as claimed organizes the prefixes of a routing table <u>according to the value of its first s bits</u>. As an illustrative example following the scheme as claimed, suppose s is established as 16. According to step (b) of claim 1, the partition table has $2^{16} + 1 = 65537$ entries. The extra one entry is for prefixes whose length is less than 16. It does not matter that the routing

table is IPv4 or IPv6. As long as $s = 16$, the partition table obtained according to the claimed invention has 65537 entries. The prefixes that fall into an entry according to the claimed invention are going to be stored there (steps (d) and (e)). Each entry may have zero or more prefixes.

Furthermore, by organizing the prefixes of a routing table according to the value of its first s bits and using a first designated partition (step (e) of claim 1), the claimed method can be used together with any existing dynamic method to support fast prefix insertion. This is a property Turner *et al.* does not have. In the technology field of routing tables, "dynamic" means the ability to fast insert/delete a prefix and at the same time maintain lookup performance. Accordingly, Turner *et al.* does not teach wherein the representative router table structure is a dynamic router-table data structure as specified in subject claims 2 and 10. Rather, Turner *et al.*, at col. 12, lines 55-62, describes a search (also called lookup) algorithm. This "more dynamic binary search" has nothing to do with the "dynamic" ability to fast insert/delete a prefix while maintaining lookup performance. In addition, Turner *et al.* uses their binary search on prefix lengths with the help of markers and bmps, which tend to require expensive precomputation.

It is a basic premise of patent law that, in order to anticipate, a single prior art reference must disclose within its four corners each and every element of the claimed invention. In *Lindemann v. American Hoist and Derrick Co.*, 221 USPQ 481 (Fed. Cir. 1984), the court stated:

> Anticipation requires the presence in a single prior art reference, <u>disclosure of each and every element of the claimed invention, arranged as in the claim</u>. *Connell v. Sears Roebuck and Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983); *SSIH Equip. S.A. v. USITC*, 718 F.2d 365, 216 USPQ 678 (Fed. Cir. 1983). In deciding the issue of anticipation, the [examiner] must identify the elements of the claims, determine their meaning in light of the specification and prosecution history, and identify corresponding elements disclosed in the allegedly anticipating reference. *SSIH, supra; Kalman [v. Kimberly-Clarke*, 713 F.2d 760, 218 USPQ 781 (Fed. Cir. 1983)] (emphasis added). 221 USPQ at 485.

As Turner *et al.* does not teach the claimed partitioning scheme, it does not teach each and every element of the claimed invention. Therefore, it cannot anticipate. Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1, 2, 4-8 and 10-14 under 35 U.S.C. §102(b).

Claims 3 and 9 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Turner *et al.* (U.S. Patent No. 6,018,524) in view of Licon *et al.* (U.S. Patent No. 6,728,705), and in view of Nishikado *et al.* (U.S. Patent No. 6,366,582). The applicants respectfully traverse.
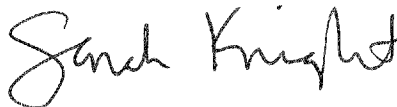
The deficiencies of Turner *et al.* have been discussed above with respect to the rejection of claim 1, from which claim 3 depends. Not only does Turner *et al.* fail to explicitly teach every element of claim 1, it also fails to suggest any of the missing elements. Licon *et al.* and Nishikado *et al.* also fail to cure these defects. Therefore, the applicants assert that Turner *et al.*, Licon *et al.*, and Nishikado *et al.*, alone or in combination, cannot teach or suggest the subject invention of claims 3 and 9. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the §103(a) rejection of claims 3 and 9.

In view of the foregoing remarks and the amendments above, the applicants believe that the currently pending claims are in condition for allowance, and such action is respectfully requested.

The Commissioner is hereby authorized to charge any fees under 37 CFR §§1.16 or 1.17 as required by this paper to Deposit Account No. 19-0065.

The applicants also invite the Examiner to call the undersigned if clarification is needed on any of this response, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

Sarah J. Knight
Patent Attorney
Registration No. 58,722
Phone: 352-375-8100
Fax No.:   352-372-5800
Address: P.O. Box 142950
              Gainesville, FL 32614-2950

SJK/la